SEQUENCE LISTING

<110>   BOMMARIUS, ANDREAS
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<120> ACETYL AMINO ACID RACEMASE FROM AMYCOLATOPSIS ORIENTALIS FOR RACEMIZING
CARBAMOYL AMINO ACIDS

<130>   214382US0X

<150>   DE 10050124.9
<151>   2000-10-11

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<170>   PatentIn version 3.1

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gcc ccg ttc cgg acg tcg ttc ggg acg cag tcc gag cgg gaa ttg ctg   96
Ala Pro Phe Arg Thr Ser Phe Gly Thr Gln Ser Glu Arg Glu Leu Leu
                20   25   30

ctg gtc cgc gcg gtg acc ccg gcg ggc gag ggc tgg ggc gaa tgt gtc   144
Leu Val Arg Ala Val Thr Pro Ala Gly Glu Gly Trp Gly Glu Cys Val
            35   40   45

gcg atg gag gcg ccg ctc tac tcg tcg gag tac aac gac gcc gcc gag   192
Ala Met Glu Ala Pro Leu Tyr Ser Ser Glu Tyr Asn Asp Ala Ala Glu
        50   55   60

cac gtg ctg cgg aac cat ctg atc ccc gca ctg ctg gcg gcc gag gac   240
His Val Leu Arg Asn His Leu Ile Pro Ala Leu Leu Ala Ala Glu Asp
65   70   75   80

gtg acc gcg cac aag gtg acg ccg ttg ctg gcg aag ttc aag ggc cac   288
Val Thr Ala His Lys Val Thr Pro Leu Leu Ala Lys Phe Lys Gly His
                85   90   95

cgg atg gcg aag ggc gcg ctg gag atg gcg gtc ctc gac gcc gaa ctc   336
Arg Met Ala Lys Gly Ala Leu Glu Met Ala Val Leu Asp Ala Glu Leu

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cgc gcg cat gac cgg tcc ttc gcg gcc gag ctg ggg tcc act cgc gac        384
Arg Ala His Asp Arg Ser Phe Ala Ala Glu Leu Gly Ser Thr Arg Asp
        115                     120                     125

tcc gtg gcc tgc ggg gtc tcg gtc ggg atc atg gac tcg atc ccg cac        432
Ser Val Ala Cys Gly Val Ser Val Gly Ile Met Asp Ser Ile Pro His
        130                     135                     140

ctg ctc gac gtc gtc ggc ggc tac ctc gac gag ggc tac gtc cgg atc        480
Leu Leu Asp Val Val Gly Gly Tyr Leu Asp Glu Gly Tyr Val Arg Ile
145                     150                     155                160

aag ctg aag atc gag ccc ggc tgg gac gtc gag ccg gtc cgg cag gtg        528
Lys Leu Lys Ile Glu Pro Gly Trp Asp Val Glu Pro Val Arg Gln Val
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cgt gag cgc ttc ggt gac gac gtg ctg ctg cag gtc gac gcg aac acc        576
Arg Glu Arg Phe Gly Asp Asp Val Leu Leu Gln Val Asp Ala Asn Thr
                180                     185                     190

gcg tac acg ctg ggc gac gcg ccc ctg ctg tcc cgg ctc gac ccg ttc        624
Ala Tyr Thr Leu Gly Asp Ala Pro Leu Leu Ser Arg Leu Asp Pro Phe
                195                     200                     205

gac ctg ctg ctg atc gag cag ccg ctc gaa gaa gag gac gtg ctc ggc        672
Asp Leu Leu Leu Ile Glu Gln Pro Leu Glu Glu Glu Asp Val Leu Gly
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cac gcc gag ctg gcc aag cgg atc cgg acg ccg atc tgc ctc gac gag        720
His Ala Glu Leu Ala Lys Arg Ile Arg Thr Pro Ile Cys Leu Asp Glu
225                     230                     235                240

tcg atc gtc tcg gcc aag gcc gcc gcg gac gcg atc aag ctc ggc gcc        768
Ser Ile Val Ser Ala Lys Ala Ala Ala Asp Ala Ile Lys Leu Gly Ala
                245                     250                     255

tgc cag atc gtc aac atc aaa ccg ggc cgg gtc ggc gga tac ctc gaa        816
Cys Gln Ile Val Asn Ile Lys Pro Gly Arg Val Gly Gly Tyr Leu Glu
                260                     265                     270

gcc cgc cgg gtg cac gac gtc tgc gcg gca cac ggg atc gcg gtg tgg        864
Ala Arg Arg Val His Asp Val Cys Ala Ala His Gly Ile Ala Val Trp
                275                     280                     285

tgc ggc ggg atg atc gag acc ggg ctc ggc cgg gcg gcc aac gtc gca        912
Cys Gly Gly Met Ile Glu Thr Gly Leu Gly Arg Ala Ala Asn Val Ala
        290                     295                     300

ctg gcc tcg ctg ccc ggc ttc acg ctg ccg ggg gac acc tcg gcg tcc        960
Leu Ala Ser Leu Pro Gly Phe Thr Leu Pro Gly Asp Thr Ser Ala Ser
305                     310                     315                320

ggc cgg ttc tat cgc acc gac atc acc gag ccg ttc gtg ctg gac gcc       1008
Gly Arg Phe Tyr Arg Thr Asp Ile Thr Glu Pro Phe Val Leu Asp Ala
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ggg cat ctg ccg gtg ccg acc ggg ccg ggc ctc ggg gtg act ccg att      1056
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ccg gat ctt ctg gac gag gtc acc acg gag aaa gcg tgg atc ggt tcg      1104
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                20                  25                  30

Leu Val Arg Ala Val Thr Pro Ala Gly Glu Gly Trp Gly Glu Cys Val
            35                  40                  45

Ala Met Glu Ala Pro Leu Tyr Ser Ser Glu Tyr Asn Asp Ala Ala Glu
        50                  55                  60

His Val Leu Arg Asn His Leu Ile Pro Ala Leu Leu Ala Ala Glu Asp
65                  70                  75                  80

Val Thr Ala His Lys Val Thr Pro Leu Leu Ala Lys Phe Lys Gly His
                85                  90                  95

Arg Met Ala Lys Gly Ala Leu Glu Met Ala Val Leu Asp Ala Glu Leu
            100                 105                 110

Arg Ala His Asp Arg Ser Phe Ala Ala Glu Leu Gly Ser Thr Arg Asp
            115                 120                 125

Ser Val Ala Cys Gly Val Ser Val Gly Ile Met Asp Ser Ile Pro His
        130                 135                 140

Leu Leu Asp Val Val Gly Gly Tyr Leu Asp Glu Gly Tyr Val Arg Ile
145                 150                 155                 160
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Lys Leu Lys Ile Glu Pro Gly Trp Asp Val Glu Pro Val Arg Gln Val
            165             170             175

Arg Glu Arg Phe Gly Asp Asp Val Leu Leu Gln Val Asp Ala Asn Thr
            180             185             190

Ala Tyr Thr Leu Gly Asp Ala Pro Leu Leu Ser Arg Leu Asp Pro Phe
            195             200             205

Asp Leu Leu Leu Ile Glu Gln Pro Leu Glu Glu Glu Asp Val Leu Gly
    210             215             220

His Ala Glu Leu Ala Lys Arg Ile Arg Thr Pro Ile Cys Leu Asp Glu
225             230             235             240

Ser Ile Val Ser Ala Lys Ala Ala Ala Asp Ala Ile Lys Leu Gly Ala
                245             250             255

Cys Gln Ile Val Asn Ile Lys Pro Gly Arg Val Gly Gly Tyr Leu Glu
            260             265             270

Ala Arg Arg Val His Asp Val Cys Ala Ala His Gly Ile Ala Val Trp
        275             280             285

Cys Gly Gly Met Ile Glu Thr Gly Leu Gly Arg Ala Ala Asn Val Ala
    290             295             300

Leu Ala Ser Leu Pro Gly Phe Thr Leu Pro Gly Asp Thr Ser Ala Ser
305             310             315             320

Gly Arg Phe Tyr Arg Thr Asp Ile Thr Glu Pro Phe Val Leu Asp Ala
                325             330             335

Gly His Leu Pro Val Pro Thr Gly Pro Gly Leu Gly Val Thr Pro Ile
            340             345             350

Pro Asp Leu Leu Asp Glu Val Thr Thr Glu Lys Ala Trp Ile Gly Ser
        355             360             365
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